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vol. xxi.]

CONTRIBUTIONS
TO THE
FLORA OF NORTH PATAGONIA
AND THE
ADJOINING TERRITORY.

BY

JOHN BALL, F.R.S., M.R.I.A., F.L.S., ETC.

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Contributions to the Flora of North Patagonia and the adjoining Territory.

1878

By JOHN BALL, F.R.S., M.R.I.A., F.L.S., &c.

[Read February 21, 1884.]

I RETURNED last year from Brazil to England in company with M. Georges Claraz, a Swiss gentleman who had passed several years in the Argentine territory, chiefly at Bahia Blanca, and who during his residence at that place made frequent excursions through Northern Patagonia as far as the river Chubat, and even beyond that river. Having a fairly extensive knowledge of the principles of physics and biology, and being gifted with keen and accurate powers of observation, M. Claraz has accumulated a large store of valuable information respecting a region still very imperfectly known, which will, I trust, be soon given to the world. Along with collections in other branches of natural history, M. Claraz preserved specimens of most of the plants observed during his residence in South America. The greater part of these were sent some years ago to Switzerland, but have unfortunately been lost or mislaid. He retained a smaller collection, chiefly from the neighbourhood of Bahia Blanca and the adjoining territory of North Patagonia, which he was good enough to send to me after his return to Europe. It included about 190 species from the Patagonian region, and a much smaller set of about 60 species from the province of Entrerios. The interest of the collection is much enhanced by the notes added by M. Claraz respecting many of the species, their properties and uses, with the vernacular names of those familiar to the Indian tribes.

It is well known that the coast-region of North Patagonia was visited by Charles Darwin in 1833. He collected a good many plants, chiefly near Bahia Blanca, specimens of which are preserved in the Kew Herbarium, and has left an admirable description of the prominent physical characteristics of the Patagonian region. But neither Darwin nor any of the botanists who have since been able to visit the country have been able to penetrate far into the interior, or to remain long enough to acquire any but a very partial acquaintance with the flora. This is evidenced by the very meagre account of the vegetation given in Grisebach's great work on the Vegetation of the Earth, and by the fact that in the very useful volume on the Argentine Republic, edited by Mr. R. Napp, the late Professor Lorentz, in the chapter treating of the Vegetation of the Argentine territory, was forced, when attempting to give an account of the Patagonian flora, to rely altogether upon information supplied by two settlers, MM. Heusser and Claraz, who were not botanists, and were therefore unable to identify with species known to science most of the plants referred to by them under local names.

I have therefore thought it desirable to prepare a list of the species received from M. Claraz, as a contribution to the existing scanty materials towards a knowledge of the Patagonian flora, adding a few preliminary remarks on its general characteristics.

The political boundaries of Patagonia have been altered at various times; but we may safely assign as its natural physical limit to the north the valley of the Rio Colorado, which reaches the Atlantic about fifty miles south of Bahia Blanca. In his phyto-geographical map of the Argentine territory, Prof. Lorentz included a tract north of that river extending to the Sauce, whose estuary forms the port of Bahia Blanca; while for political purposes a considerable part of the country lying between the rivers Colorado and Negro has been annexed to the province of Buenos Ayres. Three considerable rivers carry the drainage of the Cordillera to the Atlantic across Patagonia, but receive only few and inconsiderable affluents—the Rio Colorado, forming the northern boundary, flowing S.E. and having its mouth about 40° S. lat.; the Rio Negro, uniting two considerable branches which between them drain the eastern face of the Araucanian Cordillera for a distance of fully 200 miles, and flowing E.S.E. into the Atlantic about 41° S.; and the Chubat, flowing a little S. of E. to its mouth about 43½° S. The Chubat may be looked upon as the boundary between North and South Patagonia, dividing it into two territories of nearly equal extent. Of these the northern has been partially, though imperfectly, explored; and annually receives a gradually increasing number of European colonists; while Southern Patagonia, in spite of the remarkable journey of Lieutenant Musters, continues to be one of the least-known portions of the earth, and, excluding the northern shores of the Magellan Strait which are subject to quite different physical conditions, contains in a territory as large as Spain but one petty trading-port—that of Santa Cruz, about lat. 50° S.; while the indigenous Indian population, estimated by Musters at 3000, is believed to be now reduced to less than half that number. Speaking in general terms, Patagonia may be said to consist of a plateau region extending from the base of the Cordillera to the Atlantic coast, the whole of which has been upraised within a very recent geological period, and in which the rivers and minor streams have excavated valleys varying much in depth and breadth. The most remarkable feature in the flora of this region is its extreme poverty. Its components include the plants growing on the dry stony plateaux and those of the comparatively moist and sheltered valleys; but, putting together all that has been collected and published in Europe, I doubt whether more than 300 indigenous species can be said to be certainly known to grow south of the Rio Colorado. No doubt this number will be largely increased whenever naturalists are able to reach the country at the eastern base of the Cordillera, where Lt. Musters observed many plants not seen by him elsewhere. With regard, however, to the region now comparatively known, it is certain that the extreme poverty of the flora of such an extensive continental area is a fact quite exceptional. If this be true as to North Patagonia, the case is much stronger as to the southern part of the territory. In the neighbourhood of Santa Cruz Dr. C. Berg was able to collect only 60 species, including in that number a few Cryptogams; and he notes the rarity of grasses in that district, while in M. Claraz's collection I find 24 species of indigenous grasses, besides 6 others, probably introduced by man.

The causes of the poverty of the Patagonian flora do not seem to me to have been adequately explained. Prof. Lorentz * is disposed to attach most importance to the uniformity and sterility of the soil and the rudeness of the climate. The soil of the plateau is no doubt both very uniform and very sterile, but similar tracts in other parts of the world support a very varied vegetation, and Engler has assigned good reasons for believing that dry soils are in general favourable to the development of new vegetable forms. Further, it may be remarked that the soil of the valleys must exhibit a sufficient degree of variety of moisture, of constituents, and of exposition to favour the development of many species not yet established there.

Still less can I admit the severity of the climate as an explanation of the poverty of the flora. So far as I know, we have no continuous observations from any place in Patagonia proper; but we cannot suppose the climate of the northern districts to

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* See 'The Argentine Republic,' by Richard Napp (Buenos Ayres, 1876), Chapter vii. by the late Prof. Lorentz.

differ much from that of Bahia Blanca, where we find the following temperatures as the result of 20 years' observations :—

Three summer months	75°·6 Fahr.
Three winter months	46·2 „
Mean of the year	59·4 „

This at once shows that the climate is eminently of a temperate character; and this conclusion is fortified by the fact that in 20 years the mean maximum temperature of the year was 100°·7 F.* and the mean minimum 26°·8 F. A very similar climate is to be found in Europe in the corresponding latitude about 100 miles east from the coast of Portugal towards the Spanish frontier. If further proof were requisite, it is to be found in the fact that wheat is very productive, and the vine thrives in the valley of the Rio Negro. As already remarked, the dryness of the climate does not account for the poverty of the flora. As is well known, the opposite coasts of extratropical South America present exactly opposite conditions as regards the distribution of moisture. In travelling southwards on the west coast you pass from the rainless zone of Peru and the extreme dryness of Northern Chili to the climate of Central Chili, where at Valparaiso the annual rainfall is only 13·6 inches, yet supports a varied flora, including a good many indigenous trees whose structure has been adapted to the climatic conditions. The rainfall increases very rapidly along the southern coast of Chili till it reaches a maximum, probably about 42° S. lat., of from 130 to 140 inches a year.

On the Atlantic coast you find in South Brazil, about 26° S. lat., an annual rainfall of about 90 inches, which at Monte Video is already reduced to about one half, and at Buenos Ayres, less exposed to the direct influence of the Atlantic, is not more than 35 inches. But this, it will be remarked, is nearly three times the fall at Valparaiso, in the same latitude, on the west coast. At the hilly station of Tandil, not far from the sea, though further south by three degrees, the rainfall is the same as at Buenos Ayres; but at Bahia Blanca we find only a fraction less than 20 inches, and Dr. Hann gives a return for one year from the banks of the Chubat showing a rainfall of 17 inches. There is a further point to be noted—that on the west coast the rainfall is almost exclusively confined to winter, whereas in Patagonia it is spread pretty uniformly over the seven warmer months of the year from October to April, not more than five inches falling in the five colder months, from May to September, a condition evidently favourable to tree-vegetation.

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* The comparatively high maximum temperature given for Bahia Blanca may depend on local causes or some defect in the protection of the thermometer from radiation. At Buenos Ayres, more than 4° nearer the equator, the mean yearly maximum is 94° F.

The true explanation, in my opinion, of the exceptional poverty of the Patagonian flora is to be sought in the direction long ago indicated by Charles Darwin, when, in discussing the absence of tree-vegetation from the pampas, he remarks that in that region, recently raised from the sea, trees are absent, not because they cannot grow and thrive, but because the only country from which they could have been derived—tropical and subtropical South America—could not supply species organized to suit the soil and climate. So it happened in Patagonia—raised from the sea during the latest geological period, and bounded to the west by a great mountain-range mainly clothed with an Alpine flora requiring the protection of snow in winter, and to the north by a warm temperate region whose flora is mainly of modified subtropical origin—the only plants that could occupy the newly formed region were the comparatively few species which, though developed under very different conditions, were sufficiently tolerant of change to adapt themselves to the new environment. The flora is poor, not because the land cannot support a richer one, but because the only regions from which a large population could be derived are inhabited by races unfit for emigration. The rapidity with which many introduced species have spread in this part of South America is perhaps to be accounted for less by any special fitness of the immigrant species, than by the fact that the ground is to a great extent unoccupied. Doubtless, if no such interference had taken place, and the operation were left to the slow action of natural causes, a gradual increase in the vegetable population would come about. Fresh species of Andean plants would gradually become modified to suit the climate of the plain (perhaps one such recent instance is supplied in *Boopis laciniata* of the following list) ; still more slowly new varieties would have been developed among the indigenous plants, from which, by natural selection, new species would have been formed. No doubt these causes have been in action during the short time that has elapsed since Patagonia has existed as part of the continent; but the time has been far too short to allow of the development of a rich and varied flora. We are apt, I think, to underrate the extreme slowness of the operation of the agencies that modify the forms of vegetation and the fact that change in arboreal vegetation must, other things being the same, proceed much more slowly than with herbaceous, especially annual, plants. How many of the plants found in fossil Miocene deposits, enormously more ancient than the commencement of the Patagonian flora, are more than slightly modified forms of existing species?

Although the collection at my disposal gives a very incomplete view of the flora of North Patagonia, there may be a little interest in comparing the proportion borne by the chief natural orders to the whole known flora in this as compared with the flora of the Argentine region as made known by Grisebach's 'Symbolæ.'

Table showing the Proportional Number of Species belonging to the chief Natural Orders in the North-Patagonian and Argentine Floras.

Natural Orders.	North Patagonia.		Argentine.	
	No. of species.	Percent. on whole flora.	No. of species.	Percent. on whole flora.
Cruciferæ	4	2·0	21	0·9
Caryophylleæ	3	1·5	30	1·35
Malvaceæ	0	0	51	2·25
Geraniaceæ	5	2·6	31	1·4
Leguminosæ	8	4·1	174	7·7
Rosaceæ	7	3·6	14	0·6
Lythrarieæ	1	0·5	25	1·1
Loasaceæ	4	2·0	11	0·5
Umbelliferæ	4	2·0	38	1·7
Rubiaceæ	1	0·5	39	1·7
Compositæ	36	18·65	377	16·6
Asclepiadeæ	1	0·5	38	1·7
Convolvulaceæ	0	0	44	1·9
Solanaceæ	9	4·6	95	4·2
Scrophularineæ	5	2·6	33	1·5
Labiatæ	1	0·5	33	1·5
Verbenaceæ	7	3·6	43	1·9
Amarantaceæ	7	3·6	37	1·65
Chenopodiaceæ	8	4·1	19	0·84
Polygonaceæ	5	2·6	19	0·84
Euphorbiaceæ	0	0	76	3·4
Urticaceæ	1	0·5	22	1·0
Irideæ	2	1·0	22	1·0
Liliaceæ	1	0·5	26	1·15
Cyperaceæ	5	2·6	66	2·9
Gramineæ	30	15·5	187	8·25
Filices	6	3·1	66	2·9

The latter naturally includes a large proportion of species belonging to subtropical types. Both lists include the introduced as well as the indigenous species.

Seven species enumerated in the following list, but which probably do not extend to Patagonia, are excluded from this table.

The most noticeable features in the comparison are the much larger proportion of Rosaceæ and Gramineæ in the Patagonian flora, with relatively few Leguminosæ, and a complete absence of Malvaceæ, Convolvulaceæ, and Euphorbiaceæ, of which orders the Argentine flora contains 171 species, or more than 7½ per cent. Besides the above, the Argentine flora, as might be expected, includes representatives of numerous natural orders (with about 400 species) not yet known to be represented in Patagonia.

The small collection of plants from Entrerios sent to me by M. Claraz contains only about 60 species, several of which are imperfect fragments, and of course cannot be considered as representative of the comparatively rich and moderately well-known flora of that region. Nevertheless, I find the following eight species not enumerated by Grisebach from that province, and only two of which he appears to have received from any part of the Argentine territory:—

Pavonia glechomoides, A. St. Hil.,=*P. cymbalaria*, DC. Concepcion del Uruguay (No. 276, G. C.).

Cassia cæspitosa, Lam. Entrerios (No. 263, G. C.).

Cuphea glutinosa, Cham. & Schlecht. Near S. José (No. 260, G. C.).

Tabernæmontana affinis, var.? Banks of the Uruguay (No. 251, G. C.).

Grisebach does not include any species of this genus.

Convolvulus dissectus, Cav., var. *angustifolia*. Forests and islands of the Uruguay (No. 287, G. C.).

Nicotiana acutifolia, A. St. Hil. Entrerios (No. 262, G. C.). Received by Grisebach from the province of Cordoba.

Nectandra amara, var. *australis*, Meisn. Entrerios (No. 247, G. C.). Received by Grisebach from Oran (the subtropical region in the extreme north of Argentine territory).

Andropogon virginicus, L. Entrerios (No. 130, G. C.).

I may here remark that many of the statements made by travellers which have been adopted in works of authority, respecting the vegetation of South America, are open to much question, and illustrate the tendency (from which even men of science are not free) to draw large inferences from a slender foundation of observed facts. What has been stated in general terms respecting the flora of Patagonia, if supposed to apply to the whole region, is much as if one should discuss and describe the flora of France who had landed at Dieppe and Nantes and Bordeaux, and travelled at each place a few miles into the interior. Thus Grisebach has borrowed from Mr. Page the statement that the plains of North Patagonia are so devoid of tree-vegetation that a single stunted tree of Acacia* near the Rio Negro is worshipped by the natives as a sacred object. But I learn from M. Claraz that groups of small trees or shrubs tall enough to conceal a man on horseback, especially those of *Iodina rhombifolia*, are dotted at rather wide intervals; while along the valleys *Salix Humboldtiana* and other small trees are not unfrequent, and in the valley of the Upper Limay the apple-tree, introduced from Europe, forms considerable groves.

Again I may remark, with reference to the valley of the Uruguay, that the assertion, also accepted by Grisebach, that the trees on the banks are all low, not exceeding 10 metres, or 33 feet, may be true at some points, but certainly not as a general statement. At many places, both along the shores and on the numerous islands, the trees range from 50 to 60 feet in height; one of these is *Luhea divaricata*, and several appear to be Leguminosæ, which, however, I was not able to approach. Again, with regard to the asserted poverty of the flora of Uruguay and Entrerios, I venture to entertain much doubt. Much of the territory of both provinces is flat and uniform in physical conditions, but about 1000 species are known from Entrerios, to which, out of a small set of 60 species, as above mentioned, 8 additions have to be made, showing how incomplete is our present knowledge. The surface and the soil of Uruguay, on the opposite bank of the same river, are much more varied, besides which there is a long stretch of sea-coast with moderately high land. If M. de St. Hilaire, while travelling in the best season, was unable to collect more than 500 species, I conclude that his itinerary was not well chosen for botanical purposes. To judge from two short excursions made in the depth of winter (end of June) from Montevideo, and from Paisandu on the Uruguay, I should have formed a very different conclusion. Near the latter place I found the open country interspersed with a considerable variety of shrubs, in great part evergreen, reminding one of the aspect of many parts of the Mediterranean region.

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* Perhaps the same spoken of by Darwin.

Lastly, with regard to the asserted paucity of subtropical forms in the regions bordering on the lower course of the Paraná and the Uruguay, it seems to me that, as compared with districts in the same latitude north of the equator, whether in North America or North Africa, the statement is quite opposed to the facts. Of the tree-vegetation nearly all are subtropical forms. Of the bushes the majority seem to belong to types characteristic of temperate South America, most of them common to the east and west sides of the Andes, while the herbaceous vegetation exhibits about an equal proportion of elements characteristic of the subtropical and the South-temperate American floras. With reference to this subject much information is to be found in a paper by Sir Charles F. Bunbury, in the 21st volume of the 'Transactions of the Linnean Society,' lately reprinted, with additions, for private circulation, along with other valuable papers by the same author.

It may be well to state that all the information contained in the following list respecting the habitats, the local names, and the uses of the plants enumerated is derived from M. Claraz. For the botanical matter alone I am responsible.

List of Plants collected in North Patagonia and South Part of the Province of Buenos Ayres by M. Georges Claraz.

The species marked with an asterisk probably do not extend to Patagonia.

BERBERIDEÆ.

BERBERIS HETEROPHYLLA, *Juss.*? A bush 4 to 5 feet high, common in Patagonia. Its northern limit is about halfway between the Rio Negro and the Chubat (No. 147, G. C.). The Struthious bird, *Rhea Darwinii*, Gould, is very fond of the berries, but these give a disagreeable taste to the flesh.

The Patagonian Indian name for the plant is *Gayaukhia*, and for the berries *Khalgo.* The specimen is a small incomplete fragment, and the determination uncertain. The plant may be undescribed.

PAPAVERACEÆ.

FUMARIA CAPREOLATA, *L.*, var. Common about Buenos Ayres and further south; doubtless introduced from Europe (No. 157, G. C.).

CRUCIFERÆ.

VESICARIA ANDICOLA, *Gill.*,=V. montevidensis, *Eichl. in Fl. Bras.* On the plateaux near Bahia Blanca and in North Patagonia (No. 132, G. C.). The name given by Gillies was changed by Eichler because the plant is mainly an inhabitant of the low country in the Argentine and Uruguay territories. But it also extends to the eastern slopes of the Andes, and mere inappropriateness, apart from positive error, is not a sufficient ground for changing an established name.

BRASSICA RAPA, *L.*, var. **CAMPESTRIS**, = B. campestris, *L.* Introduced from Europe, and now widely spread from the warm low regions of Entrerios to the barren banks of the Chubat in Mid-Patagonia (No. 186, G. C.). It sometimes produces tough and stringy turnips, and is very troublesome to farmers. From the Spanish name *Nabo* the Araucanian Indians have formed for the plant a native name, *Napur.*

LEPIDIUM BONARIENSE, *L.*,=L. pubescens, *Desv.* Very common throughout the province of Buenos Ayres (No. 143, G. C.). Grisebach (Pl. Lorentz. p. 25) identifies the *L. pubescens* of Desvaux with the plant generally taken by authors as *L. bonariense* of Linnæus, but impliedly holds that the plant of Linnæus is a different species. I do not know the grounds for this conclusion, and am disposed to believe that there is one somewhat variable species with a wide range from Mexico to temperate South America, which includes *L. bonariense*, L., *L. pubescens*, Desv., *L. bipinnatifidum*, Desv., and *L. Chichicara*, Desv.

LEPIDIUM? Sierra de la Ventana, near Bahia Blanca (No. 64, G. C.). Specimen too immature. Doubtless a form of *L. bonariense*, L.

POLYGALEÆ.

POLYGALA SPINESCENS, *Gill.*, var.? **ASPALATHOIDES**, nobis. Grows about Bahia Blanca, where it is used for making brooms (No. 134, G. C.). As this is a well-marked variety, if not a distinct species, I subjoin a brief description.

Fruticulus ramosissimus, ramis erectis, novellis herbaceis foliaceis, annotinis rigidis sublignosis aphyllis; foliis parvis, lineari-oblongis apice rotundatis, subglaberrimis; floribus in racemum laxum foliaceum dispositis, parvis lilacinis; petalis lateralibus ope tubi staminei cum carina cohærentibus. Capsulam non vidi.—*P. spinescens*, Gill. in Hook. Bot. Misc. iii. 146, differt statura minore, ramulis flexuosis, et (an semper?) aphyllis. Species est parum cognita, cujus exemplar unicum incompletum exstat in Herbario Kewensi, a Gillies ad *Salto de las Aguas* prope Mendoza lectum.

I have not seen *Acanthocladus microphyllus*, Griseb., to which that author doubtfully refers *P. spinescens*, Gill. This appears to be a true *Polygala*.

CARYOPHYLLEÆ.

SILENE ANTIRRHINA, *L.*, var. **PTERONEURA**, nob. Frequent in the valleys near Bahia Blanca (No. 116, G. C.). *Silene antirrhina*, L., is widely spread throughout both North and South America. A large series of specimens in Kew Herbarium, including one gathered at Bahia Blanca by Darwin, exhibits but trifling varieties. The plant sent by M. Claraz differs remarkably in having the veins of the calyx expanded into prominent herbaceous corrugated ridges. The calyx-teeth are also longer, and the solitary capsule ovoid and not globose. Is this an instance in which a new variety has been developed within the last half-century?

CERASTIUM SEMIDECANDRUM, *L.* Bahia Blanca, by watercourses (No. 108, G. C.).

CERASTIUM COMMERSONIANUM, *Ser.*, = C. chilense, *Baill.* Bahia Blanca, by watercourses (No. 111, G. C.). Distinguished from *C. arvense*, L., mainly by the foliaceous bracts, with the edges not scarious.

HYPERICINEÆ.

HYPERICUM CONNATUM, *Lam.* Sierra de la Ventana, and North Patagonia (No. 71, G. C.).

ZYGOPHYLLEÆ.

LARREA NITIDA, *Cav.* Valley of the Limay and elsewhere in North Patagonia (No. 87, G. C.).

GERANIACEÆ.

GERANIUM PATAGONICUM, *Hook. fil.* Common about Bahia Blanca (No. 48, G. C.). The local Spanish name for this, as well as the next very different plant, is *Alfilerillo*. To judge from a specimen in Kew Herbarium, *G. intermedium*, Bert., is not distinct from this.

Erodium cicutarium, *L'Hér*. Widely spread from Buenos Ayres southward through Patagonia. It is called *Alfilerillo*, and is considered useful for cattle, because it springs up afresh after each fall of rain (No. 106, G. C.). This species, doubtless introduced from Europe, has spread throughout nearly the whole of South America. I have seen it in Peru from the coast up to 3700 metres in the Andes, and equally common in Chili; and Grisebach records it from all parts of the Argentine territory. Like many other introduced plants, it owes its diffusion much more to animals than to the direct agency of man.

***Tropæolum pentaphyllum**, *Lam*. In a wood near La Magdalena, not far from the shores of La Plata (No. 232, G. C.). This species is, I believe, common in Uruguay and Entrerios, but does not spread far southwards. It is sometimes cultivated for ornament.

Oxalis —— ? Very common at Bahia Blanca and in North Patagonia, springing up after the rains in spring and autumn, and very variable in the colour of the flowers: the form with yellow flowers (No. 57, G. C.); with violet flowers (No. 58, G. C.); with pale-blue flowers (No. 100, G. C.). This plant is called by the Spaniards *Vinagrillo,* and *Tschilki* by the Araucanian Indians, who eat the tuberous root. There is a specimen at Kew collected by Darwin at Bahia Blanca, but I cannot identify it with any of the described species. So many South-American species of this genus have been published of late years, that I think it imprudent to give a name to this. If undescribed, it may properly be named *O. Darwinii*.

Oxalis Martiana, *Zucc.* ? From the Isla Verde, near Bahia Blanca, and elsewhere. It is widely spread northwards to Entrerios, and southward through North Patagonia (Nos. 104 & 159, G. C.). This has tomentose leaves, blue flowers, and a tuberous root. Though very different from the last, it has the same name both among the Spaniards and Indians, and the latter also eat the roots. If the name above given is correct, this extends also to Brazil. I should be more disposed to identify it with *O. floribunda*, Lehm., but M. Claraz's specimen was named by the late Professor Lorentz.

Oxalis amara, *St. Hil.* Like the last species, this is widely spread from Entrerios through Buenos Ayres to North Patagonia

(No. 103, G. C.). Sometimes improperly called *Vinagrillo.* This species has not a tuberous root. My specimen is very incomplete.

CELASTRINEÆ.

MAYTENUS CHILENSIS, *DC.* Valleys of the Upper Limay and Chubat, in Patagonia (No. 59, G. C.). A small tree, rather variable in habit.

RHAMNEÆ.

DISCARIA LONGISPINA, *Hook. & Arn.* Common in the west and south of the province of Buenos Ayres (No. 83, G. C.). The thick roots serve as fuel, and the flowers are sold in Buenos Ayres. Further south, in Patagonia, the flowers of this (perhaps a different?) species give out an odious smell. *D. febrifuga*, Mart., is scarcely a distinct species.

ANACARDIACEÆ.

DUVAUA PRÆCOX, *Griseb.* A common and characteristic shrub throughout North Patagonia (four specimens, Nos. 150–153, G. C.). This forms a bush 5 or 6 feet in height. The Patagonian Indians call the plant *Rerèle* and the fruit *Yssgitz.* The Araucanian name is *Mitschi.* There is another species, called *Ahnec* by the Patagonians, a small tree, not more than 15 feet in height, with broader leaves and larger fruits, from which the Indians prepare a fermented drink. *D. præcox* appears to be widely spread and very variable; I do not think that *D. fasciculata*, Griseb., can be separated from it.

LEGUMINOSÆ.

MEDICAGO LUPULINA, *L.*? Very young, but undoubted. Bahia Blanca (No. 105, G. C.). Introduced from Europe with other species of the same genus.

GLYCYRRHIZA ASTRAGALINA, *Hook. & Arn.* Appears to have descended from the Cordillera along the valleys of the Chubat, Rio Negro, and Rio Colorado (No. 162, G. C.). This, which has blue flowers and glutinous leaves, flowers in spring (October to December). The Spanish name is *Curuzu*; the Araucanian name *Milpi.* A decoction of the resinous leaves is administered to women after childbirth.

ADESMIA GRISEA, *Hook. fil.* Bahia Blanca and south of the province of Buenos Ayres. Common, especially in sandy ground

(No. 109, G. C.). *A. incana*, Vogel, seems to be too near to this species.

ADESMIA PENDULA, *DC.* Bahia Blanca; Cabo S. Antonio; North Patagonia (No. 228, G. C.). This is a yellow-flowered species. The specimen represents a small form.

ADESMIA —— ? Bahia Blanca (No. 110, G. C.). The specimen is too imperfect for determination, but is apparently the same as an unnamed specimen in Kew Herbarium from Maldonado, collected by Lieut. Carr.

ADESMIA —— ? Valley of the Rio Colorado. Collected in March (No. 206, G. C.). The specimen (wanting leaves and fruit) is too imperfect for determination, but appears to be near *A. longipes*.

***ERVUM HIRSUTUM**, *L.* In a wood at Ajó (No. 169, G. C.). Doubtless introduced from Europe. Not mentioned by C. Berg in his 'Enumeracion de las Plantas Europeas que se hallan como silvestres en la provincia de Buenos Ayres y en Patagonia.'

RHYNCOSIA SENNA, *Gill.*, var. *foliolis lanceolatis* Sierra de la Ventana, near Bahia Blanca (No. 80, G. C.).

RHYNCOSIA SENNA, *Gill.*, var. *foliolis late ovatis*. Bahia Blanca (No. 189, G. C.). This species, originally described from Chilian specimens, appears to be widely spread from Texas and Mexico to the borders of Patagonia. I do not think that *R. texana*, Torr. & Gr., can be separated from it. It is an insignificant climber, with small yellowish flowers.

ROSACEÆ.

MARGYRICARPUS SETOSUS, *Ruiz & Pav.* Bahia Blanca (No. 66, G. C.). Called by the Spaniards "Yerba de la perdiz," which is merely a translation of the Araucanian name *Silio lahuen*, *Silio* meaning partridge, and *lahuen* remedy. The Tinamous (*Nothura maculosa*, Temm.), or so-called partridges, of South America, are used to eat the fruit. This species was collected at Bahia Blanca by Darwin.

MARGYRICARPUS —— ? Sierra de la Ventana and North Patagonia (No. 67, G. C.). This is probably a variety of *M. setosus*, but is prostrate and much more robust, bearing to it much the same relation that *Juniperus nana* does to slender forms of *Juniperus communis*.

MARGYRICARPUS —— ? Valley of the Upper Limay and elsewhere in North Patagonia (No. 65, G. C.). This is too imperfect for description; evidently allied to *M. setosus*, but the leaves are different. The rhachis is tomentose, rigid, subspinescent, and the leaflets shorter and more equal in size. It is probably *M. microphyllus* of Niederlein, who has described several new Patagonian plants in the 'Monatschrift zur Beförderung des Gartenbaus in den Preussischen Staaten' for 1881.

MARGYRICARPUS CLARAZII, n. sp. A native of Middle Patagonia, extending from about lat. 41° S. to the Chubat, and southward from that river (No. 155, G. C.). This is a small plant allied to *M. alatus*, Gill. in Hook. Miscell. iii. p. 385, but certainly distinct. I subjoin brief diagnostic characters.

A *M. alato*, Gill., differt foliolis subtus lanatis, stipulis (basi petioli adnatis) fimbriato-ciliatis, calyce florifero sericeo-piloso, fructifero in alas duas acutas expanso tuberculis acutis 2–3 intermediis minuto. The fruit in this plant is very singular. In *M. alatus* we find 4 or 5 membranous wings, recalling the appearance of the fruit of *Laserpitium*. In this the two rigid, pointed, wing-shaped expansions are as long as twice the diameter of the fruit, and the stiff, pointed, intermediate tubercles are more than half that diameter in length.

ACÆNA SPLENDENS, *Hook. & Arn.* Upper Limay, North Patagonia (No. 90, G. C.). Apparently brought down by the streams from the Andes.

ACÆNA MYRIOPHYLLA, *Lindl.* Bahia Blanca, especially common about the *bizcacheros*, or bizcacha* warrens (No. 95, G. C.).

PYRUS MALUS, *L.*, var. Valley of the Upper Limay (No. 54, G. C.). The apple is said to have been introduced into this region by the Spanish missionaries. It has thriven wonderfully, and in the interior, especially between 40° S. and 40° 30′, it forms extensive groves and even small forests. It has developed two varieties; the fruit of one is sweet, of the other somewhat tart, but not uneatable. My specimen has the leaves duplicato-serrate, velvety on the under surface.

SAXIFRAGEÆ.

RIBES MAGELLANICUM, *Poir.* Valley of the Upper Limay (No. 91, G. C.). I have seen no specimens from so northern a locality.

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* The "Viscacha," *Lagostomus trichodactylus*, Brookes, of zoologists.

CRASSULACEÆ.

TILLÆA MUSCOSA, *L.*, var.,=T. minima, *Miers*. South of province of Buenos Ayres and North Patagonia (No. 156, G. C.). This was gathered by Darwin at Bahia Blanca.

HALORAGEÆ.

MYRIOPHYLLUM ——? Streams at Bahia Blanca (No. 123, G. C.). This has neither flower nor fruit, but is almost certainly *M. proserpinacoides*. It also grows in Entrerios (No. 122, G. C.).

LYTHRARIEÆ.

CUPHEA SPICATA, *Cav.*, var. **RACEMOSA**, *Koehne*? Marshes of the Naporta Chico, Bahia Blanca (No. 117, G. C.). I do not feel certain of the identity of this with the Uruguay plant of Koehne, but it is certainly very near to *C. spicata*.

ONAGRARIEÆ.

ŒNOTHERA MENDOCINENSIS, *Gill.* Bahia Blanca and North Patagonia (No. 137, G. C.). It is called *Balsamo* by the Spaniards, and by the Indians *Inulei*, and is used for application to wounds. This, which was collected by Darwin in Patagonia, differs from *Œ. odorata*, Jacq., in being altogether more glabrous, and having the leaves more attenuated at the base, but I doubt whether it should be ranked as more than a variety of that species. It is doubtful whether *Œ. mollissima,* L., should not be included under the same specific type.

LOASACEÆ.

MENTZELIA ALBESCENS, *Griseb.*, = Bartonia albescens, *Gill.* North Patagonia (No. 92, G. C.). This species is widely spread throughout temperate South America.

LOASA PROSTRATA, *Gill.*? Sierra de la Ventana, near Bahia Blanca (Nos. 61 & 107, G. C.). I am somewhat doubtful as to this. The species of *Loasa* are very variable, and their limits ill-defined.

BLUMENBACHIA MULTIFIDA,=Loasa multifida, *C. Gay*. In woods at Ajó, near Cabo S. Antonio (No. 167, G. C.). Called *Amor seco* by the Spaniards.

GRAMMATOCARPUS VOLUBILIS, *Presl.* Bahia Blanca and North Patagonia (No. 176, G. C.). Araucanian name *Fuéo*. Gathered by Darwin at Bahia Blanca.

FICOIDEÆ.

SESUVIUM PORTULACASTRUM, *L.* Salt-marshes of the Rio Colorado (No. 182, G. C.). Called by the natives *Gume* or *Jume*, but that is a general name for succulent herbaceous plants.

UMBELLIFERÆ.

AZORELLA GLEBARIA ?, =Bolax glebaria, *D'Urv.* Mid-Patagonia, northern limit about lat. 41° S., and extending southward beyond the river Chubat (No. 149, G. C.). I have but three minute fragments (flowering rosettes) of this plant, each about the size of a pea, but I feel sure that they belong to *A. glebaria* or a near ally. The Indian names for the plant are *Kethála* and *Gethenn.* They use the resinous root as a masticatory, and also roast and grind it into a sort of flour.

ERYNGIUM PANICULATUM, *Lam.* Bahia Blanca, thence extending northward through Buenos Ayres and Entrerios (No. 85, G. C.). This, as well as two other large *Eryngia* of similar habit, is called *Shetá* by the Araucanians. It is much less common than it formerly was. It seems as though it were driven out by the European thistles.

ERYNGIUM —— ? Bahia Blanca (No. 50, G. C.); Entrerios (No. 52, G. C.). The specimens are too immature for determination. They agree best with the Chilian *E. humifusum.* The plant is sometimes used for dyeing wool; and M. Claraz thinks that it may have been introduced. But it has, as he says, an Indian name, *Lief huintschu.*

APIUM RANUNCULIFOLIUM, *DC.* Bahia Blanca and North Patagonia (No. 236, G. C.). Called by the Spaniards *Apio a Maron.* This is a wide-spread and variable species, but quite distinct from the *A. australe*, which is merely a southern form of the cosmopolitan *A. graveolens*, and which, according to M. Claraz, also grows on the coast of Patagonia.

RUBIACEÆ.

GALIUM PUSILLUM, *Endl., non Sm.* Bahia Blanca and North Patagonia (No. 115, G. C.). Called by the Indians *Relfen* or *Relvun.* The roots are used to produce a red dye for wool. This is scarcely distinct from *G. corymbosum*, Ruiz & Pav.

DIPSACEÆ.

DIPSACUS SYLVESTRIS, *L.* Naporta Grande, near Bahia Blanca (No. 39, G. C.). Introduced from Europe, and has now spread widely. It is found on the banks of streams in the Sierra de la Ventana and Sierra de Tandil, in the valleys of the Rio Negro and Rio Colorado, and as far as Valcheta in Patagonia. Called by the Spaniards *Cardo de la Sierra.* This is an instance of an introduced plant extending its area very rapidly. It appears to be of very recent introduction, and is not mentioned by Grisebach or by Berg.

CALYCEREÆ.

BOOPIS ANTHEMOIDES, *Juss.* Bahia Blanca and adjoining country (Nos. 114 & 140, G. C.).

BOOPIS LACINIATA, =Nastanthus laciniatus, *Miers.* Grows on the gravelly bed of the Rio Negro, and the Chubat in Patagonia (No. 93, G. C.). This belongs to a group of species hitherto seen only in the higher regions of the Andes, and has doubtless been carried down to the plain by the streams from the Southern Andes. It is, perhaps, a variety of *B. scapigera*, Remy.

COMPOSITÆ.

STEVIA SATURELÆFOLIA, *Sch. Bip.*, var. **ANGUSTIFOLIA**, *Baker.* Isla Verde, south of Bahia Blanca (No. 187, G. C.). Flowers rose-coloured.

STEVIA SATURELÆFOLIA, var. **PATAGONICA** ? Sierra de la Ventana, Sierra de Tandil, Bahia Blanca, and throughout North Patagonia (No. 188, G. C.). Flowers red. I suppose this to be one of the forms of this very variable species. It approaches the variety *laxa.*

EUPATORIUM ERODIIFOLIUM, *DC.* Sierra de la Ventana and North Patagonia (No. 79, G. C.). This species has been hitherto known only from South Brazil and Uruguay. The Araucanian Indians call the plant *Meñuèké*, and use the decoction as a sudorific.

MIKANIA —— ? Grows in the water of the Naporta, near Bahia Blanca, climbing up the stems of reeds (No. 73, G. C.). This is a small plant, with leaves sinuato-lobate, the lobes rounded obtuse, the stem thin and feeble, the flower-heads small and congested. It is either an undescribed species or an extreme form of the very variable *M. scandens*, L.

Gutierrezia linearifolia, *Hook. & Arn.* North Patagonia (No. 193, G. C.).

Hysterionica jasonioides, *Willd.* Bahia Blanca (No. 96, G. C.).

Solidago linearifolia, *DC.* Widely spread about Bahia Blanca (No. 136, G. C.). The Indians call the plant *Felel*, and use it for dyeing wool yellow. This and *S. microglossa*, DC., seem to be forms of the same species.

Erigeron bonariense, *L.* Valley of the Rio Colorado and North Patagonia (No. 191, G. C.). The Spanish name given to this and several other Composites of similar appearance is *Chileca*; the Araucanians call it *Sassiñ*.

Baccharis artemisioides, *Hook. & Arn.* Common in North Patagonia, on the plateaux and the flanks of the valleys (No. 94, G. C.).

Baccharis coridifolia, *Pers.* Sierra de Tandil, flowering in (March) autumn (No. 121, G. C.). Spanish name *Romerillo*. Widely spread, especially in Uruguay, and said to be very poisonous to cattle.

Baccharis gilliesii, *A. Gr. Proc. Am. Ac.*, V. 123; var. *foliis longioribus profundius dentatis*. Sand-hills near the sea, at Isla Verde, the mouth of the Rio Colorado, and elsewhere in Patagonia (No. 181, G. C.). This is used to make brooms, and called in Spanish *Iscoba*.

Baccharis salicifolia, *Pers.* Sandy ground in the valleys of the Rio Negro, Rio Colorado, and the Chubat (No. 203, G. C.). A shrub 7–9 feet high; the leaves somewhat resinous and aromatic; the wood spongy, used by the Indians to make fire by friction. The limits of the South-American species of *Baccharis* are not easily defined; and this with *B. glutinosa* and their allies form a group which is widely spread through temperate and subtropical S. America.

Baccharis tenella, *Hook. & Arn.*? Plateaux of North Patagonia (No. 210, G. C.). A very imperfect fragment, and the determination uncertain.

Baccharis —— ? Bahia Blanca, Sierra de la Ventana, and elsewhere (No. 200, G. C.). A small fragment, too imperfect to be named.

ACHYROCLINE SATUREIOIDES, *DC.* Sierra de Tandil; flowering in autumn, end of March (No. 120, G. C.). It is somewhat remarkable to find this species, widely spread throughout tropical South America, extending so far south under very different climatal conditions. Neither from dried specimens nor from the description (DC. Prod. vi. p. 220) can I see any note of distinction between this and *A. flaccida*, DC.

GNAPHALIUM LUTEO-ALBUM, *L.* Bahia Blanca and North Patagonia (No. 63, G. C.). It is rather remarkable that this cosmopolitan weed, which is found almost everywhere else in South America, is not mentioned in Grisebach's enumeration of the very full collections made by the late Prof. Lorentz and others in the Argentine territory. It is not included by Berg in his list of plants introduced about Buenos Ayres, perhaps because he considered it indigenous.

GNAPHALIUM AMERICANUM, *Mill.*, = G. spicatum, *Lam.* About Ajó (No. 168, G. C.).

AMBROSIA ARTEMISIÆFOLIA, *L.*; var. *foliorum segmentis angustis lanceolato-linearibus.* Common at Ajó, and extends throughout the province of Buenos Ayres (No. 173, G. C.). This plant is said to give a disagreeable taste to the flesh of cattle feeding on it. It has no Indian name. Perhaps an introduced species.

XANTHIUM AMBROSIOIDES, *Hook. & Arn.* South of the province of Buenos Ayres, very common about the *bizcacheros* (No. 53, G. C.). Unlike the other *Xanthia*, this very distinct species is confined to temperate South America; but its area appears to be extending, it being doubtless transported by animals, to whose hair or fur the fruit adheres. M. Claraz informs me that in his district the plant has been seen only of late years, and was not found anywhere in that region by Professor Lorentz in his earlier excursions to the south of Buenos Ayres.

VERBESINA AUSTRALIS, *Baker*, = Ximenesia microptera, *DC.* Bahia Blanca. A weed which seems to follow the colonists (No. 43, G. C.).

SPILANTHES HELENIOIDES, *Hook. & Arn.* From Bahia Blanca westward and southward through Patagonia (No. 97, G. C.). The Indians call this plant *Ñim ñim*, and chew the root to allay thirst. A decoction is also used with a compress for headache. M. Claraz's specimen is named *Gaillardia Doniana* on the authority of Lorentz; but there must be some mistake, as that is a very different plant.

*BIDENS CHRYSANTHEMOIDES, *Michx.* About Cabo S. Antonio, in inhabited places (No. 195, G. C.). Probably spread by the agency of man. *B. helenioides,* H. B. K., seems to be a form of the same species.

FLAVERIA CONTRAYERVA, *Pers.* Bahia Blanca (No. 51, G. C.). Perhaps an introduced plant; but its use as a yellow dye is known to the Indians.

TAGETES ——? Bahia Blanca (No. 220, G. C.). An imperfect specimen which I have been unable to make out. Even the genus is uncertain.

GAILLARDIA MEGAPOTAMICA, *Spreng.*, var. SCABIOSOIDES, *Baker*, =Cercostylos scabiosoides, *Arn.* Bahia Blanca and North Patagonia (No. 75, G. C.). The Araucanian name is *Tschöike catschu*, meaning Rhea-grass. The leaves are very aromatic, and the infusion is used as a sudorific. It is an illustration of the justice of the precept of M. Alphonse de Candolle, that you should never attribute to an author a name which he has not used, to observe that this species is cited by Grisebach ('Plantæ Lorentzianæ,' p. 140, and 'Symbolæ ad floram Argentinam,' p. 199), as "*Gaillardia scabiosoides*, Benth. Hook." If the authors of the 'Genera' had undertaken to name the species, they would probably have formed the same conclusion as Mr. Baker has expressed in the 'Flora Brasiliensis.'

SENECIO PINNATUS, *Poir.* Sierra de la Ventana and North Patagonia (No. 78, G. C.). The Araucanian name is *Tschacalia.*

SENECIO PINNATUS, *Poir.*, var.? GLANDULOSUS. Bahia Blanca, and through North Patagonia (No. 98, G. C.). I am somewhat doubtful as to this being referred to a form of *S. pinnatus.* It closely resembles *S. punctatus*, Hook. & Arn., which has been by Mr. Baker united to *S. pinnatus*; but this specimen differs from all the forms of that species in the rather dense glandular pubescence of the upper ramifications and the involucres.

Senecio laricifolius, *H. B. K.*? A small shrub from the plateaux of North Patagonia (No. 209, G. C.). This is a poor specimen, but it agrees with one collected by Darwin near Bahia Blanca, and thus labelled in Kew Herbarium. It agrees pretty well with the description of Kunth. Nevertheless I do not feel sure of the specific identity of this and the Peruvian plant.

Senecio —— ? Bahia Blanca (No. 205, G. C.). A very imperfect fragment, looking like *S. oligoleucos*, Baker.

Cnicus lanceolatus, *L.* Introduced from Europe of late years, now widely spread in the district of Bahia Blanca. Called in Spanish *Cardo negro*.

Hyalis argentea, *Don.* Bahia Blanca and North Patagonia: one of the characteristic plants of this region (No. 164, G. C.). The Spaniards call this *Oliva* and also *Maqui blanco*. The resinous excrescences on the stem caused by insects are gathered by the Indians, and used as a masticatory.

Chuquiraga erinacea, *Don.* Widely spread through North Patagonia from the Atlantic coast to the Cordillera, the northern limit being about Bahia Blanca (No. 82, G. C.). The Araucanian name is *Tschitri kekelu*.

Chuquiraga hystrix, *Don.* North Patagonia, northern limit some way south of the Rio Negro, extending thence to the Chubat and beyond that river, very common in some parts (No. 148, G. C.). A shrub 4–5 feet high, with the heads (involucral scales) bright yellow, flowering in summer (December and January). The leaves prick like needles, but easily drop off from the dried specimen. This is a larger and stronger plant than the allied *C. erinacea*. The leaves, which are quite glabrous, are broader below, terminating in a sharp brown point. There is slight araneous pubescence (cobweb) about the margin of the involucral scales.

Chuquiraga Kingii, n. sp. Extends from the mountains of Treñèta southward to the Chubat and beyond that river (No. 146, G. C.). I have received but a very incomplete fragment of this undescribed species, but it is evidently the same as two specimens in the Kew Herbarium; the first, from Port St. Elena, collected by Captain King, the second, labelled "Patagonia," from Captain Middleton. I subjoin a brief diagnostic character which may serve to identify the plant.

Chuquiraga Kingii differt a proxima *C. spinosa*, Don, spinis axillaribus brevissimis, foliorum nervis lateralibus obsoletis, et præsertim involucri squamis latioribus apice cartilagineo submuticis, nec in mucronem spinescentem acuminatis. In hac specie squamæ interiores flavæ, nec ut in *C. spinosa* saturate aurantiacæ.

The Indians distinguish the above-mentioned three species of *Chuquiraga*, and the Patagonian name for this is *Amtrac-tractschic*.

TRICHOCLINE HETEROPHYLLA, *Less*. Very common about Bahia Blanca (No. 141, G. C.). Called by the Spaniards *Chucho*, but improperly, as the true *Chucho* is a Solanaceous plant.

NASSAUVIA ROSULATA, = Acanthophyllum rosulatum, *Hook. & Arn. Comp. Bot. Mag.* ii. p. 43 (Nos. 88 and 145, G. C.). A stunted shrub growing in rough stony ground in Patagonia from the Rio Negro southward to the Chubat and beyond that river. It is used to make rude combs for the Indian women; and as the root is very tough, the Patagonians, who call it *Yahenelc*, drag it up by passing the leather thong which is attached to the saddle of the horse round the base of the stem. This is a curious plant which, though apparently common in Patagonia, is rare in herbaria. There are but two fragments in the herbarium at Kew; the first collected by Darwin at Port Desire, the other somewhere on the coast of Patagonia by Captain Middleton. It belongs to a small group including two other species from the Chilian Andes, first described by Lagasca, and referred by him to *Triptilion*, but more correctly placed in the genus *Nassauvia* by Don in 1832. Soon after, on account of their very peculiar habit and mode of growth, they were constituted into a separate genus by Hooker and Arnott (Comp. Bot. Mag. i. p. 37) under the name *Acanthophyllum*. That name having been previously adopted for a very different genus by C. A. Meyer, the group received the name *Strongyloma* in DC. Prod. vii. p. 51. In the present species the upright stems have very numerous branches, which are reduced to rounded glomerules of minute leaves about the size of a pea, with usually 1, sometimes 2, small flowering heads at the apex. My specimens have no primary leaves; but in Darwin's specimen these much resemble the involucral scales, having a strong medial nerve which is produced to a sharp spiny point. I have not seen specimens of *Nassauvia glomerulosa*, Don (*Strongyloma*, DC.

Prod.), which is said to grow in the higher region of the Chilian Andes; but from the description it appears to be so similar to the Patagonian plant, that the latter should, perhaps, be referred to it as a variety.

SONCHUS ASPER, *Fl. Dan.* Naturalized, and now widely spread (No. 49, G. C.). This and the nearly allied *S. oleraceus* are widely spread throughout tropical and temperate South America, and their diffusion has probably been to a great extent independent of the agency of man.

HYPOCHŒRIS —— ? Common throughout the province of Buenos Ayres (No. 194, G. C.). The specimen is in bad condition, and too imperfect for recognition.

PLUMBAGINEÆ.

STATICE BRASILIENSIS, *Boiss.* Salt-marshes of Tuyu, and in North Patagonia (No. 102, G. C.). The Patagonians call this *Guaïcuru*, and make a deep-red decoction from the roots, used in popular medicine to purify the blood.

PRIMULACEÆ.

ASTEROLINON SERPYLLIFOLIUM, = Lysimachia serpyllifolia, *Poir.*, = Pelletiera verna, *A. St.-Hil.* Bahia Blanca (No. 69, G. C.). I do not feel sure that *Pelletiera serpyllifolia*, Webb, Phyt. Can., is the same as the South-American plant.

APOCYNACEÆ.

MENODORA —— ? From the base of the Sierra de la Ventana near Bahia Blanca (No. 218, G. C.). Of this I have a mere fragment without leaves; but it does not agree well with any of the described species. From *M. decemfida*, to which it approaches, it differs by a larger corolla and the form of the calyx.

ASCLEPIADEÆ.

BRACHYLEPIS CANDOLLEANUS, *Hook. & Arn.* N. Patagonia, flowering late in autumn (April, May). Also found on the Sierra de la Ventana and in Entrerios (No. 213, G. C.).

*PHILIBERTIA SOLANOIDES, *H. B. K.*, = Sarcostemma incanum, *Dcne.* At Tuyu, near Cabo S. Antonio; also seen in Entrerios (No. 227, G. C.). This climbs up the stems of Gramineæ and other small plants.

*Oxypetalum solanoides, *Hook.* At Ajó, near Cabo S. Antonio (No. 165, G. C.).

HYDROPHYLLACEÆ.

Phacelia glandulosa, *Nutt.*, var. patagonica. South of province of Buenos Ayres (No. 211, G. C.). A very imperfect fragment, but evidently the same as a plant in Kew Herbarium gathered by Darwin at Bahia Blanca, and another from the Patagonian coast, sent by Captain Middleton. It differs from the variety *neo-mexicana* by a smaller corolla and less exserted stamens and style.

BORAGINEÆ.

Heliotropium anchusæfolium, *Poir.*, var. angustifolium. Marshes of the Naporta Chico near Bahia Blanca (No. 119 *b*, G. C.). This was collected and sent along with *Stemodia lanceolata*, Benth.

Heliotropium curassavicum, *L.*, var. parviflorum. Salt-marshes at the mouth of the Rio Negro, and elsewhere in Patagonia and Buenos Ayres (No. 221, G. C.).

Eritrichium —— ? Valley of the Rio Negro on moist ground (No. 199, G. C.). I am unable to determine this plant, not finding it possible to fix the characters of the numerous American species with minute flowers. It has some resemblance to *E. albiflorum*, Griseb. (*Myosotis albiflora*, Banks. & Sol.), but cannot, I think, be referred to that species. Its true position, I believe, either as a variety or as a distinct species, is between *E. californicum*, A. DC., and *E. tenellum*, Gray.

SOLANACEÆ.

Solanum eleagnifolium, *Cav.* South of the province of Buenos Ayres (No. 81, G. C.). This plant, whose original home is the subtropical zone of South America, appears to have followed the spread of colonization southward. It is very common about inhabited places, and a troublesome weed in cultivated soil.

Solanum —— ? About Bahia Blanca, and along the valley of the Rio Negro (Nos. 55 and 99, G. C.). The Araucanian Indians cook the leaves and eat them as a vegetable, calling the plant *Liaghé*. Without a familiar acquaintance with the plants in their home, it is not easy for a botanist to find his way among the many hundred species of *Solanum* described from South America. This is certainly the same as Argentine specimens (unnamed) preserved in Kew Herbarium from Tweedie and Miers. It is nearest to *S. Tweedianum*, Hook., but much smaller than that species. Whether it should be ranked as a variety or as a distinct species, I will not attempt to determine.

PHYSALIS VISCOSA, *L.* This is widely spread from Entrerios through the province of Buenos Ayres to the Rio Negro, and beyond it in North Patagonia, but always near inhabited places (No. 175, G. C.). This is commonly called *Camanbú*, a Guarani name, showing that the plant has spread from the north (*i. e.* Brazil). The same name is given to the fruit of another Solanaceous plant which has also spread from South Brazil to Patagonia, *Salpichroma rhomboideum*, Miers *. The Araucanian Indians have no name for the present species, but call the fruit *Kilièn*, the name given to the Strawberry (*Fragaria chilensis*).

LYCIUM FILIFOLIUM, *Gill.*, var. = L. minutifolium, *Miers*, *Ill. S. Am. Pl.* ii. p. 130. Bahia Blanca and through North Patagonia (No. 158, G. C.). This is common about Buenos Ayres, but appears to have been introduced there. The Araucanian name is *Tschayem*. This is a small bush, 2–3 feet in height, with feeble branches, which, when not supported, usually rest on the ground.

LYCIUM ——? Bahia Blanca; Sierra de la Ventana; North Patagonia (No. 208, G. C.). Araucanian name *Huingan*, called by the Spaniards *Mataperro*, probably because dogs, attempting to penetrate the bushes, are seriously injured by the sharp tough spines. I cannot identify this with any described species; but as there are several of which I have not seen specimens, I hesitate to give this a name. It agrees with an unnamed specimen in Kew Herbarium from the Rio Negro, from Wilkes's Exploring Expedition, and approaches *L. elongatum*, Miers; but is, I think, certainly different. In the present plant the calyx is minute, with very short segments, the corolla attenuated, almost entire, scarcely lobed, but rather crenated at the mouth; the pedicels, which are very short in flowering-time, are somewhat elongated when the plant bears its bright-red berries. The leaves are small, linearspathulate. If, as I believe, undescribed, it may properly be called *Lycium Wilkesii.*

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* I may remark that the locality "Magellania," given by Dunal in DC. Prod. for this *Salpichroma*, on the supposed authority of Commerson, is an indubitable mistake. Commerson found the plant near Monte Video.

CESTRUM PARQUI, *L'Hér.*, var. South of the province of Buenos Ayres (Nos. 174 and 219, G. C.). This species, almost universal in South America, is extremely variable. M. Claraz's specimen represents a small and slender form.

PETUNIA NYCTAGINIFLORA, *Juss.* North Patagonia, Sierra de la Ventana, Sierra de Tandil (No. 192, G. C.). This was known to extend from South Brazil to Buenos Ayres; but M. Claraz has added considerably to its known area.

NIEREMBERGIA HIPPOMANICA, *Miers.* On the dry stony and rocky plateaux near Bahia Blanca, and through North Patagonia (No. 135. G. C.).

NIEREMBERGIA RIGIDA, *Miers.* Common about Bahia Blanca (No. 144, G. C.). This is very near to, and perhaps only a variety of, *N. filicaulis*, Lindl.

SCROPHULARINEÆ.

LINARIA CANADENSIS, *Spr.* Banks of the Naporta near Bahia Blanca (No. 72, G. C.). This has possibly been introduced by man; but the species is very widely spread through the American continent.

STEMODIA LANCEOLATA, *Benth.* Marshes of the Naporta Chico near Bahia Blanca (No. 119, G. C.). Flowers of a violet-blue tint. This species appears to extend from the northern provinces to the extreme south of the Argentine territory.

HERPESTIS RADICATA, *Bentham.* Same locality as the last species (No. 118, G. C.).

SCOPARIA FLAVA, *Cham. et Schlecht.* Same locality as the two preceding species (No. 118 *b*, G. C.).

GERARDIA GENISTÆFOLIA, *Cham. et Schlecht.* Sierra de la Ventana and Sierra de Tandil (No. 161, G. C.). Flowers full rose-colour.

VERBENACEÆ.

LANTANA CLARAZII, n. sp. Plateaux of North Patagonia above the valley of the Rio Negro, flowering in spring (September) (No. 214, G. C.). I subjoin a brief description of this very distinct plant:—

Fruticulus ramosissimus; foliis (saltem superioribus) sessilibus, lineari-lanceolatis, utrinque attenuatis, margine subintegerrimo sæpius revoluto, nervo medio prominente, lateralibus obsoletis; floribus capitatis in spicas brevissimas ramorum lateralium terminales congestis; bracteis floriferis ovatis pubescentibus calyci subæquilongis; calyce tubuloso brevissime 4-dentato; corollæ tubo exserto, paululum recurvato, fauce bilabiato. Ob fructum ignotum inter *Lantanam* et *Lippiam* subambigua, priori tamen, ut videtur, referenda.

The nearest ally appears to be *Lantana Sellowiana*, Link, from which, however, it differs both in habit and structural characters.

LIPPIA LYCIOIDES, *Steud.* Bahia Blanca and North Patagonia (No. 133, G. C.). The leaves, which are very aromatic, are put into the Paraguay tea; and they are also used medicinally in infusion. The Spaniards call the plant *Polèo*; the Araucanian name is *Tschoïké mamuel*, meaning ostrich-wood.

LIPPIA SERIPHIOIDES, *A. Gray.* Bahia Blanca and through North Patagonia, extending westward to the Cordillera (No. 84, G. C.). This is a characteristic species of the Patagonian flora, not extending far beyond, unless perhaps along the flanks of the Cordillera. It is called in Spanish *Tomillo del Campo*, and in Araucanian *Loom.* It is used as thyme for flavouring soup &c., and the infusion, which is aromatic with a bitter taste, is used medicinally. From a note by Tweedie on a label in Kew Herbarium, it appears that in his time, nearly fifty years ago, it was sent from the south to Buenos Ayres, and sold by apothecaries. Though long in herbaria, having been collected near Bahia Blanca by Darwin, and on the Patagonian coast by several succeeding travellers, this appears to have been first published by Asa Gray. The manuscript name "*L. rubiginosa*, Gill.," is affixed to specimens collected near Mendoza by Gillies; but that specific name has been applied to a very different plant by Schauer in DC. Prod. xi.

*VERBENA LITORALIS, *Kunth.* Tuyu, near Cabo S. Antonio (No. 222, G. C.).

VERBENA BONARIENSIS, *L.* Valleys of the Rio Colorado and the Rio Negro (No. 224, G. C.). Grows in damp ground and by water-courses. Flowers rose-colour or violet.

VERBENA TEUCRIOIDES, *Gill. & Hook.* Common at Bahia Blanca and in North Patagonia; flowers white (No. 138, G. C.).

VERBENA ERINOIDES, *Lam.* Bahia Blanca; North Patagonia (No. 139, G. C.). This has lilac flowers, with a scent of Vanilla, which come out early (November).

VERBENA INCISA, *Hook.*? Bahia Blanca (Nos. 163 and 204, G. C.). The specimens are very incomplete fragments, and the name therefore rather uncertain. The flowers are red, and the plant is commonly called *Margarita.*

LABIATÆ.

HEDEOMA MULTIFLORA, *Benth.* Bahia Blanca and North Patagonia (No. 125, G. C.). This plant, called by the Spaniards *Menta del Campo*, is much used medicinally, the decoction being considered a remedy for diarrhœa and various stomach derangements. From the fact of having no Indian name, M. Claraz supposes the plant to be of recent introduction into Patagonia. It was, however, long ago found by Gillies, Tweedie, and others at various places in the south and west parts of the Argentine territory, while it extends northward to South Brazil.

PLANTAGINEÆ.

PLANTAGO MAJOR, *L.* Common at Ajó and elsewhere (No. 196, G. C.). Doubtless introduced from Europe.

PLANTAGO PATAGONICA, *Jacq.*, var. Bahia Blanca and North Patagonia, very common (No. 127, G. C.). Among a large set of specimens of this very variable species, I find none quite agreeing with this variety. It comes nearest to the form most common in North America (*P. gnaphaloides*, Nutt.). The pubescence, especially of the calyx, is abundant, cottony, white, and not, as in many forms of the species, rufous.

PLANTAGO BISMARCKII, *Niederl.* Sierra de la Ventana (No. 60, G. C.). This is a curious and very distinct species, described by Niederlein in the 'Monatschrift zur Beförderung des Gartenbaus in d. k. Preussischen Staaten' for 1881, p. 16. It forms a small bush, 1 to 2 feet high, with a woody stem nearly an inch in diameter, and numerous crowded tufts of linear-subulate leaves on the lateral branches.

ILLECEBRACEÆ.

PENTACÆNA POLYCNEMOIDES, *Bartl.*, var. Bahia Blanca; Sierra de la Ventana: North Patagonia, extending to the foot of the Cordillera (Nos. 68 and 70, G. C.). The Indians call this *Ancue*, and use the infusion for stomach complaints.

AMARANTACEÆ.

AMARANTUS CHLOROSTACHYS, *Willd.* Bahia Blanca, where it was found by Darwin; North Patagonia; about Cabo S. Antonio (Nos. 177 and 178, G. C.). The young plant is eaten as a vegetable like spinach.

PUPALIA ——? Bahia Blanca and North Patagonia. Flowers yellowish white (No. 184, G. C.). A mere fragment, as to which I am quite uncertain.

GUILLEMINEA LANUGINOSA, *Moq.* (sub *Gossypiantho*). In the province of Buenos Ayres, ruderal (No. 47, G. C.). Also seen in Entrerios.

PFAFFIA LANATA, *Poir.* (sub *Gomphrena*). Bahia Blanca; North Patagonia. Also grows in Entrerios (Nos. 56 and 101, G. C.).

ALTERNANTHERA ECHINATA, *Sm.* Ruderal throughout the province of Buenos Ayres (No. 46, G. C.).

GOMPHRENA VILLOSA, *Mart.* Sierra de Tandil; flowering late (March) (No. 124 *b*, G. C.). Sent along with the next species, from which it is certainly different.

GOMPHRENA ROSEA, *Griseb.*? Bahia Blanca and North Patagonia (No. 124 *a*, G. C.). This is said to flower in February in the south, but a month earlier in Entrerios. The flowers (*i. e.* coloured bracts) are of a bright rose-colour. The specimen is a mere scrap, as to which I am not quite certain.

CHENOPODIACEÆ.

CHENOPODIUM ALBUM, *L.* Throughout the province of Buenos Ayres (No. 42, G. C.).

CHENOPODIUM MURALE, *L.*? Bahia Blanca and elsewhere, common (No. 197, G. C.). The specimen has neither flower nor fruit.

CHENOPODIUM AMBROSIOIDES, *L.* Everywhere about Bahia Blanca &c. (No. 40, G. C.). Commonly called *Paico hembra.*

CHENOPODIUM AMBROSIOIDES, *L.*, var.? Common at Bahia Blanca and elsewhere (No. 41, G. C.). This is sent as a different plant from the last, and said to be called *Paico macho*; but it appears to be no more than one of the numerous varieties of that protean species.

ATRIPLEX PAMPARUM, *Griseb.* Near Cabo S. Antonio (No. 166, G. C.). I suspect that this must be ranked as a variety of *A. patagonica.*

ATRIPLEX LAMPA, *Gill.*, var. ANGUSTIFOLIA? Valley of the Upper Limay (No. 99, G. C.). This is very possibly an undescribed species of the Section *Obione,* and certainly allied to *A. Lampa,* Gill. My specimen represents the male plant only. The whole plant is hoary white, very much branched, the male flowers in little spherical or egg-shaped heads.

HETEROSTACHYS RITTNERIANA, *Ung. Sternb.*? Salt-marshes at Bahia Blanca (No. 180, G. C.). The Araucanian name is *Tschilpé.* The specimen is incomplete; and in this very difficult group I feel no certainty. This may possibly belong to the closely allied *Spirostachys patagonica,* Hook. fil.

SALICORNIA FRUTICOSA, *L.*, var. PERUVIANA. Salt-marshes of the Rio Colorado (No. 183, G. C.). The native name for this and several other succulent plants growing in salt-marshes is *Gume.*

POLYGONACEÆ.

RUMEX MAGELLANICUS, *Griseb.* In the valleys of all the rivers and principal streams draining North Patagonia (No. 128, G. C.). The inflorescence is of a rich purple-red hue. The Indian name is *Calcatréo.* Though a well-marked form, this seems to be closely allied to *R. cuneifolius,* Campd.

RUMEX PRATENSIS, *Mert. & Koch.* Valley of the Rio Negro, North Patagonia (No. 160, G. C.). Perhaps introduced from Europe?

RUMEX CONGLOMERATUS, *Murr.* At Tuyu and Ajó (No. 231, G. C.). I suppose that this must be ranked among the forms of the cosmopolitan *R. sanguineus,* L.

POLYGONUM CAMPORUM, *Meisn.*, var. AUSTRALE. At Tuyu (No. 223, G. C.).

Muehlenbeckia chilensis, var. injucunda, *Meisn. in DC. Prodr.* Valley of the Limay, North Patagonia (No. 86, G. C.). This is commonly called *Salsaparilla*, and is used medicinally.

SANTALACEÆ.

Arjona patagonica, *Hombr. et J.*,=A. tuberosa, *Cav.*, var. patagonica, *A. DC.* Bahia Blanca; North Patagonia (No. 126, G. C.). This is called *Macachina* by the Spaniards, and *Sakel* by the Araucanian Indians. In winter one or more tubers, about an inch long and half as thick, are developed. These are eaten, either raw or cooked. The tubers are detached from the parent stem when the plant flowers in spring. M. Claraz states that, further south in Patagonia, beyond the Chubat, this species is replaced by a different one, which produces longer and thinner tubers. I have not seen several of the species (or forms) described by Mr. Miers in the Journal of the Linnean Society, xvii.

Iodina rhombifolia, *Hook. & Arn.* Widely spread, but not common, extending from the northern frontier of Patagonia to Entrerios and Uruguay, and to the interior of the Argentine territory (Nos. 142 and 190, G. C.). This shrub occurs here and there in small groves at wide intervals, usually on dry ground. One of M. Claraz's specimens comes from the Salina Chica, 12 leagues west of Bahia Blanca, and another grove is at the foot of the Sierra de la Ventana. The Araucanian name is *Trallian*. At Bahia Blanca the Spaniards call it *Sombretoro*; but in Entrerios that name is given to a species of *Maytenus*.

URTICACEÆ.

Urtica spathulata, *Sm.* Common about Bahia Blanca, in ruderal stations, and especially around the *bizcacheros* (No. 44, G. C.). This seems to be nearly allied to the Andean *U. echinata*, Benth.

BROMELIACEÆ.

Tillandsia coarctata, *W.*? Valley of the Rio Negro and elsewhere in North Patagonia, on the branches of shrubs (No. 207, G. C.). The specimen is too imperfect to be determined with certainty; it undoubtedly belongs to the group *Diaphoranthema*. A good many species of *Tillandsia* have been recorded from the northern and central parts of the Argentine territory, but the extension of the genus so far southward as Patagonia is, I believe, altogether new.

IRIDEÆ.

SISYRINCHIUM CHILENSE, *Hook.* Extends southward from Entrerios through the province of Buenos Ayres to the borders of Patagonia. Common at Bahia Blanca (No. 113, G. C.). This is called by the Spaniards *Thé pampa* and by the Indians *Picun pelia.* The infusion is used as tea, and is valued as a sudorific.

SISYRINCHIUM CLARAZII, *Baker MSS.* Bahia Blanca (No. 112, G. C.). On showing this plant to Mr. Baker, whose knowledge of this natural order is so extensive and complete, he at once pronounced it to belong to an undescribed species; and he has been good enough to draw up a description, with the remarks which I subjoin:—

"*S. Clarazii*, Baker; acaule, dense cæspitosum; foliis basilaribus 3–4 rigidulis, anguste linearibus, scapo brevioribus; scapo 3–4-pollicari, conspicue ancipite; florum fasciculis 2–3, singulis 2–3-floris, ad scapi apicem aggregatis; spathæ valvis exterioribus duris, lanceolatis, infima exteriore in apicem foliaceum producta; pedicellis ex spatha protrusis; perianthii segmentis obverse lanceolato-oblongis, luteis, venis pluribus nigro-brunneis parallelis percursis; filamentis liberis; capsula subglobosa glabra.

"A dwarf acaulescent densely tufted yellow-flowered species, with a conspicuously two-edged flower-stalk, allied to *S. pusillum*, *S. bogotense*, and *S. tinctorium*, H. B. K. The leaves are rigid in texture, not more than half a line broad, with about seven distinct ribs. The perianth is about ½ inch in length."

From a note of M. Claraz, it appears that this is used for tea in the same manner as *S. chilense*.

AMARYLLIDEÆ.

ZEPHYRANTHES ANDERSONI, *Herb.* North Patagonia; also seen in Entrerios (No. 76, G. C.). Springs up commonly after the rains.

LILIACEÆ.

BRODIÆA AUREA, *Benth. & Hook. f.*?, =Milla aurea, *Baker.* Bahia Blanca, common after the rains (No. 35, G. C.). The specimen is very imperfect, and the determination somewhat uncertain.

JUNCACEÆ.

JUNCUS ACUTUS, *L.* Bahia Blanca and elsewhere, common (No. 37, G. C.). The succulent rhizomes are sought after by pigs at Bahia Blanca.

TYPHACEÆ.

TYPHA ANGUSTIFOLIA, *L.* Extends from the valleys of North Patagonia, through the provinces of Buenos Ayres and Entrerios (No. 229, G. C.). The Spanish name is *Totara*, the Araucanian *Trapal*. This cosmopolitan species probably owes its dissemination to water-birds, and not to the agency of man.

CYPERACEÆ.

CYPERUS VEGETUS, *Willd.* Valley of the Rio Negro (No. 171, G. C.).

SCIRPUS MARITIMUS, *L.* Common at Tuyu and elsewhere (No. 234, G. C.). In default of better material, this is sometimes used for thatching.

SCIRPUS —— ? Valley of the Rio Negro (No. 170, G. C.). A very imperfect fragment, not determinable.

CAREX PHALAROIDES, *Kunth.* Bahia Blanca, on banks of streams (No. 77, G. C.).

CAREX RIPARIA, *L.* Bahia Blanca, North Patagonia, and throughout the province of Buenos Ayres; common along water-courses (No. 38, G. C.). This is the form described as *C. incrassata*, Schlecht.

GRAMINEÆ.

SETARIA CAUDATA, *Roem. & Sch.* Bahia Blanca and North Patagonia, common (Nos. 11 and 179, G. C.).

SPARTINA COARCTATA, *Trin.* Bahia Blanca, and also from Tuyu (No. 225, G. C.). A tall, wiry grass, used for thatching.

ANDROPOGON ARGENTEUS, *DC.* Bahia Blanca (No. 14, G. C.).

CHRYSOPOGON STIPOIDES, *Trin.* (*ex Munro, MSS.*), = Sorghum nutans, *A. Gray* (*L. sub* Andropogone), = Andropogon avenaceus, *Michx.* Valley of the Naporta Grande, district of Bahia Blanca (No. 9, G. C.). This species was collected somewhere near Bahia Blanca by Darwin. It has a wide geographical range in the American continent. According to strict rules of nomenclature, this should be named *Chrysopogon nutans*, the latter being the trivial name given by Linnæus; but it seems undesirable to add to the present synonymy.

Alopecurus geniculatus, *L.*, var. aristulatus, =A. aristulatus, *Michx.* Valley of the Rio Negro and elsewhere, in moist situations (No. 198, G. C.). Commonly called *Gramilla de bañado*.

Aristida setifolia, *H. B. K.* Bahia Blanca (No. 30, G. C.).

Stipa intermedia, *Trin.* Bahia Blanca (No. 20, G. C.). Exactly agrees with a specimen collected by Darwin near Bahia Blanca, and named by Munro.

Stipa bicolor, *Vahl.* Bahia Blanca (No. 22, G. C.).

Stipa caudata, *Trin.* Bahia Blanca and elsewhere, common on the plateaux (No. 19, G. C.). A specimen collected by Tweedie from the "plains of Patagonia," and named by Munro, differs only in the awns being somewhat shorter.

Stipa pulchella, *Munro MSS.* Bahia Blanca and North Patagonia (No. 25, G. C.). This is scarcely different from *S. pogonathera*, Desv.

Stipa Clarazii, n. sp. Bahia Blanca (No. 21, G. C.). This appears to be well distinguished from all the described species, and deserves to bear the name of its discoverer. I subjoin a brief description:—

Stipa Clarazii. Perennis, culmis 2–3-pedalibus; foliis radicalibus filiformibus, involutis, flexuosis, vix rigidis, caulinis ex vagina ampla subinflata latiusculis, apicem versus involutis, basin versus margine subscariosis, eximie striatis; paniculæ laxæ ramis 1–2-pollicaribus; glumis pro grege maximis, fere pollicem longis, superiore paullo longiore apice acuminata; glumæ fertilis pilis albis sericeis, arista elongata 2–3-pollicari, scabro-villosa.

Polypogon monspeliensis, *L.* Very common in the province of Buenos Ayres, about Bahia Blanca, in the valley of the Rio Negro, and elsewhere (Nos. 12, 172, and 230, G. C.).

Pappophorum alopecuroides, *Vahl*, var.? Bahia Blanca (No. 74, G. C.). In Kew Herbarium several specimens, seemingly widely different, have been placed in the same cover by General Munro. Some are tall grasses, with a much-branched and wellfurnished panicle, others dwarfed, with a few nearly sessile spiculæ. There are, however, intermediate forms, and it remains for closer study to decide whether they should be united as varieties of a single species.

GYNERIUM ARGENTEUM, *Nees ab Esenb.* Bahia Blanca and North Patagonia (No. 28, G. C.). The Spanish name for this wide-spread species is *Cortadera.*

KŒLERIA CRISTATA, *Pers.* Bahia Blanca, common (No. 10, G. C.). Doubtless introduced from Europe, but not included in Berg's 'Enumeracion.'

ERAGROSTIS MEGASTACHYA, *Kœl.* Common about Bahia Blanca (Nos. 16 and 26, G. C.). Confined to the neighbourhood of inhabited places and cultivated ground, and apparently introduced. Called *Gramilla.*

ERAGROSTIS DELICATULA, *Trin.* Bahia Blanca and North Patagonia (No. 18, G. C.). This species affords good pasture in the valleys.

MELICA MACRA, *Nees ab Esenb.* Common about Bahia Blanca (No. 36, G. C.). This is called *Pasto bravo,* or wicked grass. It is scarcely more than a variety of *M. papilionacea,* L.

MELICA VIOLACEA, *Cav.* Very common at Bahia Blanca and through North Patagonia (No. 15, G. C.). The Araucanians call this *Nahuel catschu,* probably because the puma is supposed to crouch in the thick of it.

DISTICHLIS MARITIMA, *Raf.,* = Brizopyrum spicatum, *Hook. & Arn.* Sandy and salt soil at Bahia Blanca; in North Patagonia, and at Ajó (No. 233, G. C.). Called *Gramilla de Salitral.*

BRIZA LAMARCKIANA, *Nees ab Esenb.,* = Chascolytrum subaristatum, *Desv.* Bahia Blanca, on the plateaux (No. 13, G. C.).

POA ALOPECURUS, *Kunth.* Widely spread from Entrerios through Buenos Ayres to North Patagonia (No. 31, G. C.). Araucanian name *Fuèo catschu.*

POA LANIGERA, *Nees ab Esenb.* Bahia Blanca (No 32, G. C.).

POA DENUDATA, *Steud.* Bahia Blanca (No. 33, G. C.).

POA DENUDATA, *Steud.,* var. MINOR. Bahia Blanca (No. 34, G. C.).

***Glyceria fluitans**, *R. Br.* Tuyu &c., in province of Buenos Ayres; also in Entrerios (No. 230, G. C.). Introduced, but perhaps not by the agency of man.

Festuca bromoides, *auct.* (*incluso Munro*), *non L.* Very common at Bahia Blanca (No. 29, G. C.). Doubtless introduced from Europe.

Bromus unioloides, *H. B. K.* (Ceratochloa, *auct.*). Common in the province of Buenos Ayres and about Bahia Blanca (Nos. 24 and 27, the latter a small form, G. C.). The Araucanians call this grass *Lancu*, and formerly used the pounded seeds as food. M. Claraz supposes this to be an introduced species; but it is widely spread as an indigenous plant in South America, and appears to have been long known to the Indians, therefore probably indigenous.

Lolium perenne, *L.* Bahia Blanca; a common ruderal plant (No. 17, G. C.). Introduced from Europe, but now widely spread in South America. The larger specimens represent the variety *brasilianum* of Nees, with the rhachis scabrous and the fertile glumes setiferous.

Hordeum pratense, *L.* Bahia Blanca, very common (No. 28, G. C.).

Hordeum jubatum, *L.* Bahia Blanca and elsewhere (No. 226, G. C.). This has a very wide range, from the Arctic coast of North-west America to the Strait of Magellan. It is said to afford good herbage for cattle.

FILICES.

The following five species, along with *Adiantum cuneatum*, of which I have seen a specimen, were collected by M. Claraz in the mountains of Tandil and la Ventana; but no other ferns were observed by him during his very numerous excursions in the interior:—

Cassibeera triphylla, *Kaulf.* (No. 5, G. C.)

Pellæa ternifolia, *Fée.* (No. 1, G. C.)

Cheilanthes micropteris, *Sw.* (No. 4, G. C.) Also seen in Patagonia.

Blechnum hastatum, *Willd.* (No. 3, G. C.) Also seen in Patagonia.

ASPIDIUM CAPENSE, *Willd.* (No. 2, G. C.) Also seen in Patagonia.

ADIANTUM CUNEATUM, *Langsd.* No specimen in the collection.

P.S.—Since the foregoing pages were in type I have received the part relating to Botany of the official publication* respecting the expedition to the Rio Negro under General Roca in 1879, prepared by the late Professor Lorentz and Mr. G. Niederlein, who was the botanist of the expedition. The Catalogue includes 324 species or varieties of flowering plants, and 13 vascular Cryptogams. Of these 20 are described as new species, and as many as 66 are merely assigned to genera, but not specifically determined. Of the 258 named species of flowering plants only 53 are certainly identical with as many species in Mr. Claraz's collection; but I have reason to believe that a considerable portion of the unnamed species should also be included in that category. To account for so large an amount of difference, I may remark that the plants collected by Mr. Niederlein were all found in the interior, while a majority of Mr. Claraz's plants come from the coast-region. In both collections there are a good many species not yet certainly known to grow in Patagonia proper, as several of Mr. Niederlein's plants were found north of the Rio Colorado. His journey was effected in autumn and winter; and many of the specimens being in bad condition, it is easy to understand the difficulty of accurately determining the species. It is probable that the discrepancy between the two lists is partly due to differences between botanists working under very different conditions. I have not seen authentic specimens of many species named by MM. Lorentz and Niederlein, and they have not seen the types on which Hooker and Arnott and A. Gray have founded many species of this region.

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* Informe Oficial de la Comision Científica Agregada al Estado Mayor General de la Expedicion al Rio Negro (Patagonia) bajo las ordenes del General D. JULIO A. ROCA. Entrega II. Botánica. 4to, Buenos Aires, 1881.